UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D.C., 20460

OFFICE OF
CHEMICAL SAFETY AND
POLLUTION PREVENTION

February 8, 2019

PC Code: 019201, 019202
DP Barcode: 449350

MEMORANDUM

SUBJECT: **MCPB and salts:** Drinking Water Assessment (DWA) to Support Registration Review

FROM: Patricia Engel, Physical Scientist
Environmental Risk Branch 5
Environmental Fate and Effects Division (7507P)

Digitally signed by PATRICIA ENGEL
Date: 2019.02.08 14:06:48 -05'00'

THRU: Justin Housenger, Branch Chief
Ryan Mroz, Acting Risk Assessment Process Leader
Environmental Risk Branch 5
Environmental Fate and Effects Division (7507P)

JUSTIN HOUSENGER
2019.02.08 14:46:37 -05'00'

RYAN MROZ
2019.02.08 14:18:29 -05'00'

TO: Julie Javier, Chemical Review Manager
Ricardo Jones, Team Leader
Amy Blankinship, Acting Branch Chief
Risk Management and Implementation Branch 1
Pesticide Re-evaluation Division (7508P)

Danette Drew, Risk Assessor
Michael Metzger, Branch Chief
Risk Assessment Branch 7
Health Effects Division (7509P)

This memorandum is to inform you that the Estimated Drinking Water Concentrations (EDWCs) for surface and ground water from the 2005 drinking water assessment[1] for MCPB (and salts) can be used in lieu of an updated assessment to support registration review of this herbicide. That assessment evaluated the use on peas with a single maximum application rate of 1.5 lb. ae/A.

The referenced assessment employed both a modeling analysis and evaluation of the available monitoring data. A second drinking water assessment was completed in 2008 for MCPB use on mint.[2] Since the EDWCs calculated for the mint use were lower than the previous estimates for peas, EFED concluded that the 2005 EDWCs for use on peas should be used as the representative drinking water concentrations for use on mint. The recommended EDWCs are listed in **Table 1**.

[1] Drinking Water Assessment for MCPB Use on Peas (DP 314053, August 3, 2005)
[2] Drinking Water Assessment for MCPB Use on Mint (DP 343745, February 27, 2008)

Table 1. EDWCs for MCPB (and salt) Uses Previously Assessed on August 3, 2005 (DP314053)

Use and Model	Acute EDWC (µg/L)	Chronic EDWC (µg/L)
Surface Water [PRZM/EXAMS]	54.7	13.5 (non-cancer)
		7.3 (cancer)
Groundwater [SCI-GROW]	2.1	2.1

As part the current registration review cycle, the registrant submitted several new environmental fate studies, including: aerobic soil metabolism, aerobic aquatic metabolism, terrestrial field dissipation, storage stability, environmental chemistry method and independent laboratory validation in soil. These fate data will not impact the previously estimated EDWCs. **Table 2** compares the values used in the previous drinking water assessments with those provided in the studies submitted as part of the registration review data call-in. In all cases, the new values are less conservative than those used during the previous assessment.

Table 2. Input Values from Updated and New Fate Studies for MCPB (and salt)

Study Type	New Input Value (MRID)	Old Input Value (MRID)	Comments
Aerobic soil metabolism	5.1 days; loam soil 3.6 days; silty clay loam soil 10.6 days; sandy loam soil (47787801)	78 days based on: 3 x 26 days; sandy loam (43247601)	The previous input values were more conservative than the new values. In addition, the new study was considered Supplemental due to termination of the study prior to the decline of major transformation product MCPA, use of a questionable soil extraction method, and inclusion of a second experiment to extend the observation period without indicating comparison of degradation rate or pattern with the original experiment.
Aerobic aquatic metabolism	6.4 days in water; -- insufficient data to estimate half-life in sediment (46837205) 4.07 days; water:sandy loam 9.16 days; water:silt loam (50228701)	156 days (2 x aerobic soil metabolism)	The previous input values were more conservative than the new values. In addition, the two new studies were considered Supplemental. 46837205 provided insufficient data to estimate a half-life for either combined water:sediment system. Resulting half-live values were not suitable for quantitative risk assessments. 50228701 was based upon sampling intervals too infrequent to accurately assess either the rate of decline of MCPB or the formation and decline of MCPA and was flagged for unextracted residues of 32-42.6%.
Terrestrial field dissipation	6.81 days (48242801)	NA	The previous input values for soil metabolism were more conservative than the new field dissipation half-life.
Storage stability	NA	NA	Not used for modelling purposes.

Study Type	New Input Value (MRID)	Old Input Value (MRID)	Comments
ECM/ILV for water	0.1 µg/L LOQ (47163505/ 49986901)	NA	Not used for modelling purposes.

In addition, the stressor of concern and assessed use patterns remain unchanged from previous assessments. The revised preliminary acute and chronic dietary (drinking water only) assessments using the EDWCs from the 2005 DWA (listed in **Table 1**) resulted in no risk estimates of concern.

Questions regarding these reviews may be directed to Patricia Engel at 703-347-0223 or Justin Housenger at 703-305-6060.